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Professor
Past-President, International Association for Aquatic Animal Medicine
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North Carolina State University
College of Veterinary Medicine
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EDUCATION

North Carolina State University
College of Veterinary Medicine
Ph.D. in immunology, minor in biotechnology
1999

Iowa State University
College of Veterinary Medicine
D.V.M. with distinction
1989

Harvard University
A.B. magna cum laude in biology
1984

North Carolina State University
College of Veterinary Medicine
Residency in Zoological Medicine,
Aquatics Emphasis
July 1992 - June 1995

Kansas State University
College of Veterinary Medicine
Internship in Zoo, Exotic and Wildlife Medicine
June 1991 – June 1992

WORK AND RESEARCH EXPERIENCE

Position: **Research Assistant/Assistant/Associate/Full Professor in Aquatic, Wildlife and Zoo Medicine.**
Institution: North Carolina State University College of Veterinary Medicine. 1060 William Moore Drive, Raleigh, NC 27607; and Center for Marine Sciences and Technology, 303 College Circle, Morehead City, NC 28557. Reference: Michael Nolan. Dates: July 1999-present.

Position: **Adjunct Associate/Full Professor**
Institution: Nicholas School of the Environment and Earth Sciences, Duke University Marine Laboratory, 135 Duke Marine Lab Road, Beaufort, NC 28516. Dates: January 2010-present

Position: **White Water Raft Guide**
Employer: Nantahala Outdoor Center, 13077 Hwy 19W, Bryson City, NC 28713. References: Rob Hogsed, Eric Neff, Tanner Giesey. Dates: summers 2017 – current, weekend/part time.

Position: **Graduate Student and Environmental Protection Agency Science to Achieve Results (STAR) Fellow.**
Institution: North Carolina State University College of Veterinary Medicine. 4700 Hillsborough St., Raleigh, NC 27606. Reference: Suzanne Kennedy-Stoskopf. Dates: May 1994 – June 1999.

Position: **Resident in Zoological Medicine/Aquatics Emphasis**.
Institution: North Carolina State University College of Veterinary Medicine, 1060 William Moore Drive., Raleigh, NC 27606. Reference: Michael K. Stoskopf. Dates: July 1992-June 1995.

Position: **Intern in Zoo, Exotic and Wildlife Medicine**.
Institution: Kansas State University College of Veterinary Medicine, Manhattan, KS 66506.
Reference: James W. Carpenter. Dates: June 1991-June 1992.

Position: **Associate Veterinarian**.
Employers: Eagle River Veterinary Hospital, 12320 Old Glenn Highway, Eagle River, AK 99577; and Northern Lights Animal Clinic, 2002 W. Benson Blvd., Anchorage, AK 99693. Dates: June 1989-June 1991.

PUBLICATIONS

RESEARCH

1. Greenfield-Feig M, Heniff A, Balko JA, **Harms CA**. 2026. Doxapram increases respiratory rate, heart rate, and blood lactate concentration in juvenile green sea turtles (*Chelonia mydas*). Am J Vet Res, in press.

2. Salas AK, Sims MA, **Harms CA**, Piniak WED, Mooney TA. 2026. Noise-induced temporary threshold shifts following intermittent underwater sound exposure in the aquatic Eastern painted turtle (*Chrysemis picta picta*). J Acoust Soc Am, in press.

3. Giebink FE, Perrault JR, Toonder M, Hirsch SE, Aoki DM, **Harms CA**, Innis CJ. 2026. Blood gas and lactate analysis in nesting loggerhead (*Caretta caretta*) and green (*Chelonia mydas*) sea turtles from southeastern Florida, USA. PLOS-One 21(3): e0343737, https://doi.org/10.1371/journal.pone.0343737.

4. Muirhead, CA, Piniak WED, Nowacek DP, **Harms CA**. 2025. Underwater hearing sensitivity of the Kemp's ridley sea turtle (*Lepidochelys kempii*). J Acoust Soc Am 159:1105-1112, doi.org/10.1121/10.0041867.

5. Salas AK, Sims MA, **Harms CA**, Piniak WED, Mooney TA. 2025. Temporary threshold shifts in the eastern painted turtle (*Chrysemys picta picta*) in response to narrowband underwater noise exposures. J Acoust Soc Am 158(3):2508-2522, doi.org/10.1121/10.0039241.

6. Stacy BA, Ossibof RJ, McNaughton AL, Boylan S, Michaels L, Torres J, Stacy NI, **Harms CA**, Souza A, Sampson K, Pate M, Schwenter JA, Godfrey M, Finn S. 2025. *Mycobacterium ulcerans* ecovar infection in wild Kemp's ridley *Lepidochelys kempii* and loggerhead *Caretta caretta* sea turtles. Dis Aquat Org 164:163-174, doi.org/10.3354/dao03884.

7. Jackson ON, Keenan TF, Nelson-Maney NP, Rommel SA, McLellan WA, Pabst DA, Costidis AM, Caron KM, Kernagis DN, Rotstein DS, Thayer VG, **Harms CA**, Piscitelli-Doshkov MA, Doshkov P, Schweikert LE, Yopak KE, Braun M, Tift MS. 2025. Meningeal lymphatic and glymphatic structures in a pelagic delphinid (*Delphinus delphis*). Animals 15:729, https://doi.org/10.3390/ani15050729.

8. Keenan TF, McLellan WA, Rommel SA, Costidis AM, **Harms CA**, Thewissen JGM, Rehorek SJ, Rotstein DS, Gay MD, Taylor AR, Koopman HN, Wang Y, Kamel S, Pabst DA. 2025. The cervical gill slit gland of the pygmy sperm whale (*Kogia breviceps*) produces a chemically complex signal. Anat Rec 308: 2413-2432, doi: 10.1002/ar.25628.

9. Zorotrian T, Stern AW, Costidis A, **Harms CA**, Gao H, Fontaine C, Adams HR. 2025. Delphinid postmortem vitreous humor biochemistry as proxy for antemortem blood analyte concentrations. Mar Mamm Sci, e13157, DOI: 10.1111/mms.13157.

10. Innis CJ, Graham KM, Perrault JR, **Harms CA**, Christiansen EF, Dodge KL, Burgess EA. 2024. Further characterization of adrenocortical and thyroid hormone concentrations of leatherback sea turtles (*Dermochelys coriacea*) under various stressors, including validation of a plasma aldosterone assay. Cons Phys 12(1):coae083, doi:10.1093/conphys/coae083.

11. Houser DS, Kvadsheim PH, Kleivane L, Mulsow J, Ølberg RA, **Harms CA**, Teilmann J, Finneran JJ. 2024. Direct hearing measurements in a baleen whale suggest ultrasonic sensitivity. Science 386:902-906.

12. Martinelli L, Nelson N, Duke E, Christiansen EF, Westmoreland LS, **Harms CA**, Harrison TM. 2024. Use of computed tomography to determine body surface area and K-constant in Atlantic stingrays (*Dasyatis sabina*) for chemotherapeutic dosing. J Aquat Anim Health 36:342-347, https://doi.org/10.1002/aah.10236.

13. Rider MJ, Avens A, Hass HL, **Harms CA**, Patel SH, Snodgrass D, Sasso CR. 2024. Regional variation in leatherback dive behavior in the northwest Atlantic. Endang Species Res 55:169-185, doi.org/10.3354/esr01365.

14. Salas AK, Sims MA, **Harms CA**, Piniak WED, Mooney TA. 2024. Narrowband noise induces frequency-specific underwater temporary threshold shifts in freshwater turtles. JASA Express Letters 4 (8), 081201, doi.org/10.1121/10.0028321.

15. Kleivane L, Kvadsheim PH, Vinje AVP, Mulsow J, Ølberg RA, Teilmann J, **Harms C**, Houser D. 2024. Capture and release of minke whales offers new research opportunities including measurements of mysticete hearing. Aquat Mamm 50:352-368, https://doi.org/10.1578/AM.50.4.2024.352.

16. Salas AK, Capuano AM, **Harms CA**, Piniak WED, Mooney TA. 2024. Frequency-dependent temporary threshold shifts in the eastern painted turtle (*Chysemys picta picta*). J Acoust Soc Am 155:3254-3266, https://doi.org/10.1121/10.0026021.

17. Bonadie KL, Lynch AM, Ruterbories LK, Christiansen EF, **Harms CA**. 2024. Developing a thromboelastography assay in elasmobranchs. J Zoo Wildl Med 55:404-411, DOI: 10.1638/2023-0061.

18. Dannemiller NG, Lynch AM, Christiansen EF, **Harms CA**. 2024. An 18-µm microaggregate blood filter does not cause hemolysis during in vitro whole blood transfusions in sea turtles. Am J Vet Res, doi.org/10.2460/ajvr.23.12.0269.

19. Salas AK, Capuano AM, **Harms CA**, Piniak WED, Mooney TA. 2023. Temporary noise-induced underwater hearing loss in an aquatic turtle (*Trachemys scripta elegans*). J Acoust Soc Am 154: 1003-1017, https://doi.org/10.1121/10.0020588.

20. Denk M, McLellan W, Pabst DA, Rommel S, Keenan T, Sharp S, Niemeyer M, Hunter N, Block G, Nelson N, **Harms C**, Thornton S, Costidis A, Moore M. 2023. Melon and rostral muscle morphology of Gervais' beaked whale (*Mesoplodon europaeus*): alternating patterns of bilateral asymmetry. Anat Rec DOI: 10.1002/ar.25301.

21. Runde BJ, **Harms CA**. 2023. Vet the journal before you submit: turnaround times of journals publishing in zoological medicine and related fields. PeerJ 11:e15656, doi 10.7717/peerj.15656.

22. Zorotrian T, Stern AW, Gao H, Costidis, A, Fontaine C, Deming A, **Harms C**, Adams HR. 2023. Precision of the Abaxis VetScan VS2 for postmortem biochemical analysis of Delphinidae vitreous humor. Mar Mamm Sci 39:893-905, DOI: 10.1111/mms.13014.

23. Heniff AC, Minter LJ, **Harms CA**, Bibus D, Koutsos EA, Ange-van Heugten KD. 2023. Whole blood fatty acid profiles of cold-stunned juvenile green, Kemp's ridley, and loggerhead sea turtles. J Zool Bot Gard 4:1-11,

https://doi.org/10.3390/jzbg4010001.

24. Mones AB, Heniff AC, **Harms CA**, Balko JA. 2022. Evaluation of intracardiac administration of potassium chloride, ivermectin, or lidocaine hydrochloride for euthanasia of anesthetized blue crabs (*Callinectes sapidus*). J Zoo Wildl Med 53:689-695, https://doi.org/10.1638/2022-0012.

25. Jones HJ, Minter LJ, **Harms C**, Bibus D, Koutsos L, Ange-van Heugten K. 2022. Fatty acid profiles in managed care green and Kemp's ridley turtles over time. J Zool Bot Gard 3:545-554, https://doi.org/10.3390/jzbg3040040.

26. Wahltinez SJ, Stacy NI, Hadfield CA, **Harms CA**, Lewbart GA, Newton AL, Nunamaker EA. 2022. Perspective: opportunities for advancing aquatic invertebrate welfare. Front Vet Sci 9:973376, doi: 10.3389/fvets.2022.973376.

27. Dannemiller NG, Christiansen EF, **Harms CA**, Minter LJ, Ange-van Heugten KD. 2022. Comparison of whole blood fatty acid profiles between lionfish (*Pterois* spp.) in wild and managed care environments. J Zool Bot Gard 3:356-365, https://www.mdpi.com/2673-5636/3/3/28.

28. Runde BJ, Buckel JA, Bacheler NM, Tharp RM, Rudershausen PJ, **Harms CA**, Ben-Horin T. 2022. Comparing methods for externally attaching electronic tags to fish: assessment of tag retention, growth, and fish welfare. J Fish Biol 101:419-430, DOI: 10.1111/jfb.14989.

29. Houck EL, Cohen EB, **Harms CA**, Runde BJ, Rudershausen PJ, Buckel JA. 2022. Computed tomographic assessment of hooking-related injuries in recreationally angled blue marlin (*Makaira nigricans*). J Aquat Anim Health 34:20-27, DOI: 10.1002/aah.10145.

30. Keenan TF, McLellan WA, Rommel SA, Costidis AM, **Harms CA**, Thewissen JGM, Rotstein DS, Gay DM, Potter CW, Taylor AR, Wang Y, Pabst DA. 2022. Gross and histologic morphology of the cervical gill slit gland of the pygmy sperm whale (*Kogia breviceps*). Anat Rec 305:688-703, doi: 10.1002/ar.24707.

31. Robuck AR, Hudak CA, Agvent L, Emery G, Ryan PG, Perold VA, Powers KD, Pedersen J, Thompson MA, Suca JJ, Moore MJ, **Harms C**, Bugoni L, Glass T, Wiley DN, Lohmann R. 2022. Birds of a feather eat plastic together: high levels of plastic ingestion in great shearwater adults and juveniles across their annual migratory cycle. Front Mar Sci 8:719721, doi: 10.3389/fmars.2021.719721.

32. Linnehan BK, Gomez FM, Huston SM, Hsu A, Takeshita R, Colegrove KM, **Harms CA**, Barratclough A, Deming AC, RowlesTK, Musser WB, Zolman ES, Wells RS, Jensen ED, Schwacke LH, Smith CR. 2021. Cardiac assessments of bottlenose dolphins (*Tursiops truncatus*) in the Northern Gulf of Mexico following exposure to *Deepwater Horizon* Oil. PLOS ONE 16(12): e0261112. https://doi.org/10.1371/journal.pone.0261112

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34. Mones AB, Gruber EJ, **Harms CA**, Lohmann CMF, Lohmann KJ, Lewbart GA. 2021. Lactic acidosis induced by manual restraint for health evaluation and comparison of two point-of-care analyzers in healthy loggerhead sea turtles (*Caretta caretta*). J Zoo Wildl Med 52:1195-1204.

35. Chow JC, Kyritsis N, Mills M, Godfrey MH, **Harms CA**, Anderson PE, Shedlock AM. 2021. Tissue and temperature-specific RNA-Seq analysis reveals genomic versatility and adaptive potential in wild sea turtle hatchlings (*Caretta caretta*). Animals 11:3013, doi.org/10.3390/ani11113013.

36. Robinson NJ, García-Párraga D, Stacy B, Costidis AM, Blanco G, Clyde-Brockway C, Haas HL, **Harms CA**, Patel S, Stacy NI, Fahlman A. 2021. A baseline model to estimate risk of gas embolism in sea turtles during routine dives. Front Phys 12:67855, doi: 10.3389/fphys.2021.678555.

37. Gregory TM, **Harms CA**, Gorges MA, Lewbart GA, Papich MG. 2021. Pharmacokinetics of ketorolac in juvenile loggerhead sea turtles (*Caretta caretta*) after a single intramuscular injection. J Vet Pharm Ther 44:583-589.

38. Koutsos EA, Minter LJ, Ange-van Heugten KD, Mejia-Fava JC, **Harms CA**. 2021. Blood fatty acid profiles of neritic juvenile wild green turtles (*Chelonia mydas*) and Kemp's ridleys (*Lepidochelys kempii*). J Zoo Wildl Med 52: 610-617.

39. Mones AB, **Harms CA**, Stoskopf MK. 2021. Implications of comparative ventral body wall histology on selection of abdominal surgical approach and closure in twelve species of fish. J Fish Biol 98: 1342-1348. DOI: 10.1111/jfb.14668.

40. **Harms CA**, Ruterbories LK, Stacy NI, Christiansen EF, Papich MG, Lynch AG, Barratclough A, Serrano ME. 2021. Safety of multiple dose intramuscular ketoprofen treatment in loggerhead turtles (*Caretta caretta*). J Zoo Wildl Med 52: 126-132.

41. Scott G, Waffa BJ, DeVoe RS, **Harms CA**, Lewbart GA. 2020. Non-surgical removal of ingested golf balls and an artificial egg in rat snakes (*Pantherophis alleghaniensis*), successful and unsuccessful outcomes of four cases. J Am Vet Med Assoc 258: 1135-1141.

42. **Harms CA**, Boylan SM, Stacy BA, Beasley JF, García-Párraga D, Godfrey MH. 2020. Gas embolism and massive blunt force trauma to sea turtles entrained in hopper dredges in North Carolina and South Carolina, USA. Dis Aquat Org 142: 189-196, doi.org/10.3354/dao03542.

43. Perrault JR, Arendt MD, Schwenter JA, Byrd JL, **Harms CA**, Cray C, Tuxbury KA, Wood LD, Stacy NI. 2020. Blood analytes of immature Kemp's ridley sea turtles (*Lepidochelys kempii*) from Georgia, USA: reference intervals and body size correlations. Cons Phys 8(1): coaa091; doi:10.1093/conphys/coaa091

44. Page-Karjian A, Serrano ME, Carzendafner J, Morgan A, Ritchie BW, Gregory CR, McNeill JB, Perrault JR, Christiansen EF, **Harms CA**. 2020. Molecular assessment of Chelonid Alphaherpesvirus 5 infection in green (*Chelonia mydas*) and loggerhead (*Caretta caretta*) sea turtles in North Carolina, USA, 2015-2019. Animals 10:1964; doi:10.3390/ani10111964.

45. Linnehan BK, Hsu A, Gomez FM, Huston SM, Takeshita R, Colegrove KM, Rowles TK, Barratclough A, Musser WB, **Harms CA**, Cendejas V, Zolman ES, Balmer BC, Townsend FI, Wells RS, Jensen ED, Schwacke LH, Smith CR. 2020. Standardization of dolphin cardiac auscultation and characterization of heart murmurs in managed and free-ranging bottlenose dolphins (*Tursiops truncatus*). Front Vet Sci 7:570055, doi: 10.3389/fvets.2020.570055.

46. Page-Karjian A, Lo CF, Ritchie B, **Harms CA**, Rotstein DS, Han S, Hassan SM, Lehner AF, Buchweitz JP, Thayer VG, Sullivan JM, Christiansen EF, Perrault JR. 2020. Anthropogenic contaminants and histopathological findings in stranded cetaceans in the southeastern United States, 2012-2018. Frontiers Mar Sci 7:630, doi: 10.3389/fmars.2020.00630.

47. Scott GN, Field CL, Papich MG, **Harms CA**. 2020. Plasma concentrations of itraconazole following a single dose in juvenile California sea lions (*Zalophus californianus*). J Vet Pharm Ther 43: 377-380.

48. Wahltinez SJ, Newton AL, **Harms CA**, Lahner LL, Stacy NI. 2020. Coelomic fluid evaluation in *Pisaster ochraceus* affected by Sea Star Wasting Syndrome: evidence of osmodysregulation, calcium homeostasis

derangement, and coelomocyte responses. Front Vet Sci 7: 313, doi: 10.3389/fvets.2020.00131.

49. Minter LJ, Ange-van Heugten K, **Harms CA**, Stoskopf MK. 2020. Digestible energy intake and digestive efficiency of human managed North American river otters (*Lontra canadensis).* Vet Med Int 2020, Article ID 4307456, 7 pp, https://doi.org/10.1155/2020/4307456.

50. Niemuth JN, **Harms CA**, Macdonald JM, Stoskopf MK. 2020. NMR-based metabolomic profile of cold stun syndrome in loggerhead *Carreta carreta*, green *Chelonia mydas*, and Kemp's ridley *Lepidochelys kempii* sea turtles in North Carolina, USA. Wildl Biol 2020: wlb.00587, doi: 10.2981/wlb.00587.

51. Scott G, Law M, Christiansen EF, Lewbart GA, **Harms CA**. 2020. Evaluation of localized inflammatory reactions secondary to intramuscular injections of enrofloxacin in striped bass (*Morone saxatilis*). J Zoo Wildl Med 51: 46-52.

52. Lively MJ, Westermeyer HD, **Harms CA**, Christiansen EF. 2019. Ophthalmic lesions in a population of cold-stunned sea turtles (*Chelonia mydas, Lepidochelys kempii, Caretta caretta*). Vet Ophthal 22: 910-915. DOI: 10.1111/vop.12672.

53. **Harms CA**, McClellan-Green P, Godfrey MH, Christiansen EF, Broadhurst HJ, Godard-Codding C. 2019. Crude oil and dispersant cause acute clinicopathological abnormalities in hatchling loggerhead sea turtles (*Caretta caretta*). Front Vet Sci 6: 344. doi: 10.3389/fvets.2019.00344.

54. Innis CJ, Finn S, Kennedy A, Burgess E, Norton T, Manire CA, **Harms C**. 2019. A summary of sea turtles released from rescue and rehabilitation programs in the United States, with observations on re-encounters. Chelonian Cons Biol 18:309. doi:10.2744/CCB-1335.1.

55. Niemuth JN, **Harms CA**, Stoskopf MK. 2019. Sea turtle tears: a novel, minimally invasive sampling method for ^{1}H-NMR metabolomics investigations with cold stun syndrome as a case study. J Wildl Dis 55: 868-873. DOI: 10.7589/2018-07-168. (WDA-IAAAM best student-authored aquatics paper in J Wild Dis in 2019)

56. Archibald KE, Scott GN, Bailey KM, **Harms CA**. 2019. 2-Phenoxyethanol (2-PE) and tricaine methanesulfonate (MS-222) immersion anesthesia of American horseshoe crabs (*Limulus polyphemus*). J Zoo Wildl Med 50: 96-106. doi.org/10.1638/2018-0085.

57. Barratclough A, Tuxbury K, Hanel R, Stacy NI, Ruterbories L, Christiansen E, **Harms CA**. 2019. Baseline plasma thromboelastography in Kemp's ridley (*Lepidochelys kempii*), green (*Chelonia mydas*) and loggerhead (*Caretta caretta*) sea turtles and its use to diagnose coagulopathies in cold-stunned Kemp's ridley and green sea turtles. J Zoo Wildl Med 50: 62-68. doi.org/10.1638/2018-0142.

58. Westermeyer HD, Cook AG, **Harms C**, Boylan S. 2019. Phacoemulsification cataract surgery in the loggerhead turtle (*Caretta caretta*): surgical technique and outcomes in 10 cases. Vet Ophthalmol 22: 644-650. DOI: 10.1111/vop.12635.

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61. Cauture F, Sterba-Boatwright B, Rocho-Levine J, **Harms CA**, Miedler S, Fahlman A. 2019. Using respiratory sinus arrhythmia to estimate inspired tidal volume in bottlenose dolphin (*Tursiops truncatus*). Frontiers Phys 10:128. doi: 10.3389/fphys.2019.00128

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65. Barratclough A, Hanel R, Stacy RI, Ruterbories LK, Christiansen E, **Harms C**. 2018. Establishing a protocol for thromboelastography in sea turtles. Vet Rec Open 5:e000240, doi:10.1136/vetreco-2017-000240.

66. Stacy, NI, Lynch JM, Arendt MD, Avens L, McNeill JB, Cray C, Day RD, **Harms CA**, Lee AM, Peden-Adams MM, Thorvalson K, Segars AL, Norton TM. 2018. Chronic debilitation in stranded loggerhead sea turtles (*Caretta caretta*) in the southeastern United States: morphometrics and clinicopathological findings. PLOS One 13(7): e0200355, doi.org/10.1371/journal.pone.0200355.

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73. Cannizzo SA, Rick M, Harrison TM, **Harms CA**. 2017. Parathyroid hormone, ionized calcium, and 25-hydroxyvitamin D concentrations in the domestic ferret (*Mustela putorius furo*). J Exotic Pet Med 26: 294-299.

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250: 909-917.

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23. Tuttle AD, **Harms CA**, Van Wettere AJNJ, Grafinger MS, Lewbart GA. 2006. Splenic hemangiosarcoma in a corn snake, *Elaphe guttata*. J Herp Med Surg 16 (4): 140-143.

24. Saliki JT, Cooper EJ, Rotstein DS, Caseltine SL, Pabst DA, McLellan WA, Govett PD, **Harms CA**, Smolarek KA, Romero CA. 2006. A novel gammaherpesvirus associated with genital lesions in a Blainville's beaked whale (*Mesoplodon densirostris*). J Wildl Dis 42: 142-148.

25. Maggi RG, **Harms CA**, Hohn AA, Pabst DA, McClellan WA, Walton WJ, Rotstein DS, Breitschwerdt EB. 2005. *Bartonella henselae* in harbor porpoise (*Phocoena phocoena*) blood. Emerg Infect Dis 11: 1894-1898.

26. Boylan SM, Lewbart GA, Kishimori J, Debolt R, **Harms CA**. 2005. Surgical and medical management of aural abscesses in turtles. ExoticDVM 7.1: 22-26.

27. **Harms CA**, Lo Picolo R, Rotstein DS, Hohn AA. 2004. Struvite penile urethrolithiasis in a pygmy sperm whale, (*Kogia breviceps*). J Wildl Dis 40: 588-593.

28. Jaeger GH, Wosar MA, **Harms CA**, Lewbart GA. 2003. Supraplastron approach to the cranial coelomic cavity in a loggerhead turtle. J Am Vet Med Assoc 223: 353-355.

29. Pressler BM, Goodman RA, **Harms CA**, Hawkins EC, Lewbart GA. 2003. Endoscopic evaluation of the esophagus and stomach in three loggerhead sea turtles (*Caretta caretta*) and a Malaysian giant turtle (*Orlitia borneensis*). J Zoo Wildl Med 34: 88-92.

30. **Harms CA**, Lewbart GA, Beasley J. 2002. Medical management of mixed nocardial and unidentified fungal osteomyelitis in a Kemp's ridley sea turtle, *Lepidochelys kempii*. J Herp Med Surg 12 (3): 21-26.

31. Bonifant C, **Harms CA**, Rotstein DS, Lewbart GA. 2002. Surgical removal of a coelomic mass in a gopher snake, *Pituophis catenifer deserticola*. J Herp Med Surg, 12(3): 27-29.

32. Wolfe BA, **Harms CA**, Groves J, Loomis MR. 2001. *Argulus* sp. infestation of river frogs: treatment with lufenuron. Contemp Topics Lab Anim Med 40:35-36.

33. Tocidlowski ME, **Harms CA**. 1998. What is your diagnosis? (swim bladder torsion in a fantail goldfish). J Am Vet Med Assoc 213: 353-354.

34. Stamper MA, Lewbart GA, Barrington PR, **Harms CA**, Geoly F, Stoskopf MK. 1998. *Eimeria southwelli* infection associated with high mortality of cownose rays. J Aquat Anim Health 10: 264-270.

35. **Harms CA**, Bakal RS, Khoo LH, Spaulding KA, Lewbart GA. 1995. Microsurgical excision of an abdominal mass in a gourami (*Colisa labiosa*). J Am Vet Med Assoc 207: 1215-1217.

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37. Ackerman J, Carpenter JW, Godshalk C, **Harms C**. 1994. Ultrasonographic diagnosis of adrenal tumors in domestic ferrets. J Am Vet Med Assoc 205: 1001-1003.

38. **Harms CA**, Andrews GA. 1993. Megaesophagus in a domestic ferret (*Mustela putorius furo*). Lab Anim Sci 43: 506-508.

39. Heeb LA, **Harms CA**, Carpenter JW. 1992. What is your cytodiagnosis? J Assoc Avian Vet 6: 232-234.

40. Fix AS, **Harms CA**. 1990. Immunocytochemistry of pancreatic endocrine tumors in three domestic ferrets

(*Mustela putorius furo*). Vet Pathol 27: 199-201.

REVIEWS, BOOK CHAPTERS, and BOOKS

1. Salas A, Capuano A, **Harms C**, Piniak W, Mooney T. 2024. Calculating underwater auditory thresholds in the freshwater turtle *Trachemys scripta elegans*. *In*: Popper AN et al. (eds.). Effects of Noise on Aquatic Life. Springer, pp. 699-713, https://doi.org/10.1007/978-3-031-50256-9_142.

2. Rogers A, Read A, Lavelle A, Baird RW, Bender A, Borroni A, Cárdenas-Hinojosa G, Cioffi W, Elliott B, **Harms C**, Harshbarger A, Jacoby A-M, Lienhard K, Mantel S, McLellan W, Merrill G, Pabst DA, Rittmaster K, Rosso M, Schorr G, Southall BL, Swaim ZT, Tepsich P, Thayer VG, Urian KW, Waples DM, Webster DL, Wisse J, Wright DL, Read AJ. 2024. A call to rename *Ziphius cavirostris* the goose-beaked whale: promoting inclusivity and diversity in marine mammalogy by re-examining common names. Mar Mamm Sci 2024:e13150, DOI: 10.1111/mms.13150.

3. Wahltinez SJ, **Harms CA**, Lewbart GA. 2023. Anesthesia and analgesia in invertebrates. *In*: Dyson M, Jirkof P, Lofgren J, Nunamaker E, Pang D (eds.). Anesthesia and Analgesia in Laboratory Animals, 3rd ec. St. Louis, Missouri, Elsevier, chapter 26.

4. **Harms CA**, McLellan WA. 2023. Large whale euthanasia and necropsy. *In*: Fowler's Zoo and Wild Animal Medicine Current Therapy, vol. 10. Miller RE, Calle PP, Lamberski N (eds.). St. Louis, Missouri: Elsevier, pp. 587-593.

5. Carpenter JW, **Harms CA**. 2023. Carpenter's Exotic Animal Formulary, 6th ed. St. Louis, Missouri: Elsevier, 818 pp.

6. Smith SA, **Harms CA**. 2023. Fish. *In*: Carpenter JW, **Harms CA** (eds.). 2023. Carpenter's Exotic Animal Formulary, 6th ed. St. Louis, Missouri: Elsevier, pp. 22-71.

7. Sanchez-Migallon Guzman D, Beaufrére H, Welle KR, Heatley J, Visser M, **Harms CA**. 2023. Birds. *In*: Carpenter JW, **Harms CA** (eds.). 2023. Carpenter's Exotic Animal Formulary, 6th ed. St. Louis, Missouri: Elsevier, pp. 222-443.

8. Applegate JR, **Harms CA**. 2023. Ferrets. *In*: Carpenter JW, **Harms CA** (eds.). 2023. Carpenter's Exotic Animal Formulary, 6th ed. St. Louis, Missouri: Elsevier, pp. 626-657.

9. **Harms CA.** 2022. Echinoderms. *In*: Lewbart GA (ed.). Invertebrate Medicine, 3nd ed. Hoboken, New Jersey: John Wiley & Sons, pp. 579 – 598.

10. **Harms CA**. 2020. Strand feeding. In: Townsend Jr FI, Staggs L (eds). Atlas of Skin Diseases of Small Cetaceans, pp. 88-89.

11. **Harms CA**, Wyneken J. 2019. Husbandry and management of sea turtles in human care. *In*: Divers SJ, Stahl S, Mader DR (eds.). Mader's Reptile Medicine and Surgery, 3rd ed. Elsevier, St. Louis, Chapter 24, pp. 180-193.

12. Posner LP, **Harms CA**, Smith SA. 2019. Sedation, anesthesia, analgesia and euthanasia, *In*: Smith SA (ed). Fish Diseases and Medicine. CRC Press, Boca Raton, Florida. Chapter 18, pp. 283-304.

13. **Harms CA**, Greer LL, Whaley J, Rowles TK. 2018. Euthanasia. *In*: Gulland FMD, Dierauf LA (eds.). Marine Mammal Medicine, 3rd ed. CRC Press, Boca Raton, Florida. Chapter 28, pp. 675-691.

14. Manire CA, Norton TM, Stacy BA, Innis CJ, **Harms CA** (eds.). 2017. Sea Turtle Health and Rehabilitation. J. Ross Publishing, Jupiter, Florida, 1010 pp.

15. Stamper MA, **Harms CA**, Lewbart GA. 2017. Environment, water quality, biosecurity. *In*: Manire CA, Norton TM, Stacy BA, Innis CJ, **Harms CA** (eds.). 2017. Sea Turtle Health and Rehabilitation. J. Ross Publishing, Jupiter, Florida, Chapter 3, pp. 45-62.

16. **Harms CA**, Valente ALS, Stacy BA, Wyneken J. 2017. Nervous system. *In*: Manire CA, Norton TM, Stacy BA, Innis CJ, **Harms CA** (eds.). 2017. Sea Turtle Health and Rehabilitation. J. Ross Publishing, Jupiter, Florida, Chapter 16, pp. 417-438.

17. Innis CJ, **Harms CA**, Manire CA. 2017. Therapeutics. *In*: Manire CA, Norton TM, Stacy BA, Innis CJ, **Harms CA** (eds.). 2017. Sea Turtle Health and Rehabilitation. J. Ross Publishing, Jupiter, Florida, Chapter 21, pp. 497-526.

18. Stacy BA, Werneck MR, Walden HS, **Harms CA**. 2017. Parasites. *In*: Manire CA, Norton TM, Stacy BA, Innis CJ, **Harms CA** (eds.). 2017. Sea Turtle Health and Rehabilitation. J. Ross Publishing, Jupiter, Florida, Chapter 29, pp. 727-750.

19. Harris HS, Flint M, Stewart KM, **Harms CA**. 2017. Field techniques. *In*: Manire CA, Norton TM, Stacy BA, Innis CJ, **Harms CA** (eds.). 2017. Sea Turtle Health and Rehabilitation. J. Ross Publishing, Jupiter, Florida, Chapter 34, pp. 819-857.

20. Parga M, Crespo-Picazo JL, Garcia-Parraga D, Stacy BA, **Harms CA**. 2017. Fisheries and sea turtles. *In*: Manire CA, Norton TM, Stacy BA, Innis CJ, **Harms CA** (eds.). 2017. Sea Turtle Health and Rehabilitation. J. Ross Publishing, Jupiter, Florida, Chapter 35, pp. 859-897.

21. Lewbart GA (ed). 2017. Ornamental Fishes and Aquatic Invertebrates: Self-Assessment Color Review, 2nd ed. CRC Press, Boca Raton, Florida. Contributing author.

22. Mulcahy DM, **Harms CA**. 2014. Experimental methods fail to address the question posed in studies of surgical techniques. Fish Res156: 1-5. http://dx.doi.org/10.1016/j.fishres.2014.02.028

23. Maggi RG, **Harms CA**, Breitschwerdt EB. 2012. Bartonellosis: an emerging disease of humans, domestic animals, and wildlife. *In*: Aguirre AA, Ostfeld RS, Daszak P (eds). Conservation Medicine: Applied Cases of Ecological Health. New York: Oxford University Press, pp. 239 – 256.

24. Piniak WED, Mann DA, Eckert SA, **Harms CA**. 2012. Amphibious hearing in sea turtles. In: Popper AN, Hawkins A (eds). The Effects of Noise on Aquatic Life, Advances in Experimental Medicine and Biology 730: 83 – 87, Springer Science+Business Media, DOI 10.1007/978-1-4419-7311-5_18.

25. **Harms CA.** 2012. Echinoderms. *In*: Lewbart GA (ed). Invertebrate Medicine, 2nd ed. Ames, Iowa: Wiley-Blackwell, pp. 365 – 379.

26. **Harms CA**, Lewbart GA. 2011. The veterinarian's role in surgical implantation of electronic tags in fish. Rev Fish Biol Fisheries 21: 25-33. DOI 10.1007/s11160-010-9185-3

27. Hartman KH, Yanong RPE, **Harms CA**, Lewbart GA. 2006. The future of training for aquatic animal health veterinarians. J Vet Med Educ 33: 389-393.

28. **Harms CA.** 2006. Echinoderms. *In*: Lewbart GA (ed). Invertebrate Medicine. Ames, Iowa: Blackwell, pp. 245 – 256.

29. **Harms CA**. 2005. Surgery in fish research: common procedures and postoperative care. Lab Anim 34: 28-34.

30. **Harms CA**. 2003. Fish. *In*: Fowler ME, Miller RE (eds). Zoo and Wild Animal Medicine, 5th ed. Philadelphia: Saunders, pp. 2-20.

31. **Harms CA**, Sladky KK, Horne WA, Stoskopf MK. 2002. Epidural analgesia in ferrets. Exotic DVM 4.3: 40-42.

32. **Harms CA**, Wildgoose, WH. 2001. Surgery. *In*: Wildgoose WH (ed). BSAVA Manual of Ornamental Fish, 2nd ed. Gloucester, UK: British Small Animal Veterinary Association. Pp. 259 - 266.

33. **Harms CA**, Lewbart GA. 2000. Surgery in fish. Vet Clin N Am: Exot Anim Practice 3: 759-774.

34. Lewbart GA, **Harms CA**. 1999. Building a fish anesthesia delivery system. Exotic DVM 1(2): 25-28.

35. **Harms CA**. 1999. Anesthesia in fish. *In*: Fowler ME, Miller RE (eds). Zoo and Wild Animal Medicine: Current Therapy 4. Philadelphia: WB Saunders Co, pp. 158-163.

36. Lewbart GA (ed). 1998. Self-Assessment Review of Ornamental Fish. Manson Publishing, London. Contributing author.

37. **Harms CA.** 1996. Treatments for parasitic diseases of aquarium and ornamental fish. Sem Avian Exot Pet Med 5 (2): 1-10.

38. **Harms CA**, Bakal RS. 1995. Techniques in fish anesthesia. J Sm Exotic Anim Med 3: 19-25.

39. Carpenter JW, **Harms CA**, Harrenstien L. 1994. Biology and medicine of the domestic ferret. J Sm Exotic Anim Med 2: 151-162.

40. Lewbart GA, **Harms CA**. 1993. Preventative medicine for pet fishes. J Sm Exotic Anim Med 2: 128-132.

OTHER

Special Member, University of Florida Graduate School, for service on doctoral committee, January 2026-present

Mid-Barataria Bay Dolphin Intervention Workshop, NOAA, 27-29 August 2024, Nashville, TN. Steering committee member for workshop on developing plans for potential intervention activities in response to adverse effects from Mid-Barataria Mississippi River Sediment Diversion Restoration Plan on bottlenose dolphins.

Sharp SM, Moore MJ, **Harms CA**, Wilkin SM, Sharp WM, Patchett KM, Rose KS. 2024. Report of the live large whale stranding response workshop. Woods Hole Oceanographic Institution Technical Report, WHOI-2024-05, https://hdl.handle.net/1912/70889

Harms CA, Nowacek DP, Piniak WED. 2023. Workshop Report: Methods to Examine Behavioral and Physiological Responses of Sea Turtles to Sound. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 59 p. Report No.: OCS Study BOEM 2023-079. https://espis.boem.gov/Final%20Reports/BOEM_2023-079.pdf

Mid-Barataria Bay Monitoring Workshop, NOAA, 12-14 December 2023, New Orleans, LA. Invited participant on developing plans to monitor impact of Mid-Barataria Mississippi River Sediment Diversion Restoration Plan impacts on bottlenose dolphins.

AVMA Guidelines for the Euthanasia of Animals: 2020 Edition. AVMA, Schaumburg, IL, https://www.avma.org/KB/Policies/Documents/euthanasia.pdf. Aquatics Working Group and Reptiles, Zoo and Wildlife Working Group.

AVMA Guidelines for the Depopulation of Animals: 2019 Edition. AVMA, Schaumburg, IL,

https://www.avma.org/KB/Policies/Pages/depopulation-guidelines.aspx. Zoo and Wildlife Working Group.

North Carolina Oyster Summit, panelist on Consider the Environment: Advances in Research and Regulations, 12 March 2019, NC Museum of Natural Sciences, Raleigh, NC.

Harms CA, Finkel S, Plaga RW, Behel, M, Wischusen K, Hart LB. 2019, 2021, 2024. WhaleScale. An app to calculate estimated weights of stranded cetaceans based on length, for use in managing stranding events. Android version. https://play.google.com/store/apps/details?id=edu.ncsu.whalescale

Harms CA, Finkel S, Behel M, Wischusen K, Hart LB. 2017, 2020, 2024. WhaleScale. An app to calculate estimated weights of stranded cetaceans based on length, for use in managing stranding events. iOs version. https://apps.apple.com/us/app/whalescale/id1190640888

Barco SG, Walton WG, **Harms CA**, George RH, D'Eri LR, Swingle WM. 2016. Collaborative Development of Recommendations for Euthanasia of Stranded Cetaceans. U.S. Dept. of Commer. NOAA Technical Memorandum NMFS-OPR-56, 83 pp.
ftp://ftp.library.noaa.gov/noaa_documents.lib/NMFS/TM_NMFS_OPR/TM_NMFS_OPR_56.pdf

Session Chair, Fish Pathology and Toxicology, International Association for Aquatic Animal Medicine, Virginia Beach, VA, 21-26 May 2016.

National Ocean Science Bowl, Career Panel, Beaufort, NC, 21 April 2016.

Invited participant and presenter (echinoderm pharmacokinetics), Sea Star Wasting Summit, Seattle Aquarium, Seattle, WA 14-15 January 2016.

Steering Committee, Presenter, and Workshop Participant, for Stacy BA, Keene JL, Schroeder BA. 2016. Report of the Technical Expert Workshop: Developing National Criteria for Assessing Post-Interaction Mortality of Sea Turtles in Trawl, Net, and Pot/Trap Fisheries. National Marine Fisheries Service, Office of Protected Resources, National Conservation Training Center, Shepherdstown, WV. 18 – 21 August 2015. U.S. Dept. Commer. NOAA Technical Memorandum NMFS-OPR-53. http://www.nmfs.noaa.gov/pr/species/documents/opr-53_final__1_.pdf

Fish Health. North Carolina Marine Finfish Aquaculture Best Management Practices (BMP) Training Workshop. 15 April 2015. Morehead City, NC. 20 minute presentation.

Session Chair, Sea Turtles, 45th International Association for Aquatic Animal Medicine meeting, Chicago, Illinois, 6 – 10 April 2015.

Invited participant for Long, K.J., M.L. DeAngelis, L.K. Engleby, D.A. Fauquier, A.J. Johnson, S.D. Kraus, and S.P. Northridge. Marine Mammal Non-Lethal Deterrents: Summary of the Technical Expert Workshop on Marine Mammal Non-Lethal Deterrents, 10-12 February 2015, Seattle, Washington. U.S. Dep
Commer, NOAA Tech. Memo. NMFS-OPR-50. 38 p.

Program committee and session co-chair for Health and Rehabilitation session, Southeast Regional Sea Turtle Meeting, Jekyll Island, GA, 4-7 February 2015.

Session Planner/Chair, Veterinary Session, Regional Aquatics Workshop, 23 April 2014, Wilmington, NC.

Seafood Parasites. Seafood Quality and Safety for Environmental Health Specialists. 5 - 7 November 2013, Morehead City, NC. 45 minute presentation.

Invited participant, International Whaling Commission, Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans. London, UK, 11 – 13 September 2013.
http://iwc.int/private/downloads/bcfekn9k5f4sssgg4owscw80c/IWC%20Euthanasia%20Workshop%20Report_FIN

AL_31-03-14.pdf

Invited panel participant: Southern right whale die-off review. International Association for Aquatic Animal Medicine, Sausalito, California, 23 April 2013.

AVMA Guidelines for the Euthanasia of Animals: 2013 Edition. AVMA, Schaumburg, IL. Aquatics Working Group and Reptiles, Zoo and Wildlife Working Group.

Facilitator, Tabletop Exercise: Large Whale Stranding Response Preparedness, National Aquarium in Baltimore, Baltimore, MD, 5 February 2013.

Panelist in Speed Chatting with Turtle Experts. International Sea Turtle Symposium, Baltimore, Maryland, 2 – 8 February 2013.

Dow Piniak WE, Eckert SA, **Harms CA**, Stringer EM. 2012. Underwater hearing sensitivity of the leatherback sea turtle (*Dermochelys coriacea*): Assessing the potential effect of anthropogenic noise. US Dept. of the Interior, Bureau of Ocean Energy Management, Headquarters, Herndon, VA. OCS Study BOEM 2012-01156. 35 pp. http://www.data.boem.gov/PI/PDFImages/ESPIS/5/5279.pdf

Barco SG, Walton WJ, **Harms CA**, George RH, D'Eri LR, Swingle WM. 2012. Collaborative development of recommendations for euthanasia of stranded cetaceans. Final report to NOAA/NMFS for John H. Prescott Award #NA09NMF4390212. VAQF Scientific Report 2012-06. Virginia Beach, VA. 183 pp.

Barco S, Walton W, **Harms C**, George R, D'Eri L, Swingle W, Barbieri M, Beveridge H, Dold C, Durham K, McLellan W, Merigo C, Moore K, Moore M, Rowles T, Stolen M, Van Bonn W, Walsh M. 2012. Appendix 2: Recommendations for euthanasia of stranded cetaceans. From the Final Report to NOAA/NMFS for John H. Prescott Award #NA09NMF4390212. VAQF Scientific Report 2012-06. Virginia Beach, VA. 27 pp.

Harms CA. 2012. BP Gulf of Mexico Deepwater Horizon oil spill: sea turtle response. Carteret County Wildlife Club, Morehead City, NC, 10 July.

Harms CA. 2012. Sea turtle biology, medicine and surgery. Aquavet I, Roger Williams University, Providence, RI. 11 June, 3 hr lecture, 2 hr laboratory.

Invited participant, Swimmer Y, and E. Gilman. 2012. Report of the Sea Turtle Longline Fishery Post-release Mortality Workshop, November 15−16, 2011. U.S. Dep. Commer, NOAA Tech. Memo, NOAA-TM-NMFS-PIFSC-34, 31 pp.

Harms CA. 2011. Sea turtle biology, medicine and surgery. Aquavet I, Roger Williams University, Providence, RI. 31 May, 3 hr lecture, 2 hr laboratory.

Hazardous Waste Operations and Emergency Response (HAZWOPER) 24 hr training. 29 June 2011 (110629248343). 8 hr refresher 1 Dec 2012. 8 hr refresher 1 Dec 2013.

Session Chair, Clinical Pathology, 42nd International Association for Aquatic Animal Medicine meeting, Las Vegas, NV, 7 – 11 May 2011.

Program Committee and Session Co-chair, Health and Rehabilitation session, 31st International Sea Turtle Symposium, San Diego, CA, 10 – 16 April 2011.

Contract veterinarian for oiled sea turtle response, Deepwater Horizon Oil Spill, Gulf of Mexico. 21 – 29 June 2010 (Audubon Institute, New Orleans, LA) and 1 – 8 August 2010 (Gulf World, Panama City, FL).

Invited participant in NOAA, National Marine Fisheries Service workshop, Strategic Planning for the Assessment of

Impact of the Deepwater Horizon Oil Spill on Marine Mammals and Sea Turtles. 30 June – 1 July 2010, New Orleans, LA.

Harms CA. 2010. Sea turtle biology, medicine and surgery. Aquavet I, Stonybrook Southhamton, NY. 16 June, 3 hr lecture, 2 hr laboratory.

Session Co-chair, Research, 41st International Association for Aquatic Animal Medicine meeting, Vancouver, BC, Canada, 8 – 12 May 2010.

Invited participant in International Whaling Commission workshop on Welfare Issues Associated with the Entanglement of Large Whales, 13-15 April 2010, Maui, Hawaii.

Invited participant in National Marine Fisheries Service Northeast Region sponsored Workshop on Evaluating Sea Turtle Injuries in Northeast Fishing Gear, Boston, MA 17 – 18 November 2009.
Upite C. 2011. Evaluating Sea Turtle Injuries in Northeast Fishing Gear. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 11-10; 26 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at http://www.nefsc.noaa.gov/nefsc/publications/

Seafood Parasites. Seafood Quality and Safety for Environmental Health Specialists. 4 - 6 November 2009, Pine Knoll Shores, NC. 45 minute presentation.

Sea Turtle Cases. NCSU Pre-Veterinary Club. 9 November 2009, Raleigh, NC.

Harms CA. 2009. Sea turtle biology, medicine and surgery. Aquavet I, Woods Hole, MA. 30 May, 3 hr lecture, 2 hr laboratory.

Harms CA (ed.). 2009. Proceedings of the International Association for Aquatic Animal Medicine, Vol. 40. 2 – 7 May 2009, San Antonio, Texas, 205 pp., and
http://www.vin.com/Proceedings/Proceedings.plx?CID=IAAAM2009&O=Generic

Harms CA. 2008. Sea turtle biology, medicine and surgery. Aquavet I, Woods Hole, MA. 31 May, 3 hr lecture, 2 hr laboratory.

Contributor to Stokes L, Epperly S (eds.) 2008. Sea Turtle Research Techniques Manual. NOAA Technical Memorandum NMFS-SEFSC-579, 92 pp.

Cover photograph, Southeastern Naturalist 6(2), June 2007, loggerhead sea turtle being collected from pound net, for article: Summer abundance estimates of Caretta caretta (loggerhead turtles) in Core Sound, NC, by Christopher R. Sasso, Joanne Braun-McNeill, Larisa Avens and Sheryan P. Epperly.

Epperly S, Sasso C, Prince E, Rivero C, Bolten A, Wyneken J, Flanagan J, **Harms C**. 2007. Pop-up archival transmitting tags and their application to loggerhead sea turtle survival studies. In: Sheridan P, Ferguson JW, Downing SL (eds). Report of the National Marine Fisheries Service Workshop on Advancing Electronic Tag Technology and Their Use in Stock Assessments. NOAA Technical Memorandum NMFS-F/SPO0-82, p. 23.

Harms CA. 2007. Sea turtle biology, medicine and surgery. Aquavet I, Woods Hole, MA. 2 June, 3 hr lecture, 2 hr laboratory.

Harms CA. 2007. Sea turtle research and rehabilitation. North Carolina Sea Turtle Permit Holder's Meeting. 24 March 2007, Hammock's Beach State Park, NC. Half-hour talk, plus necropsy demonstration.

Program Committee and Session Co-chair, Anatomy, Physiology and Health. 27th Annual Symposium on Sea Turtle Conservation and Biology, 24-28 February, 2007, Myrtle Beach, SC.

Harms CA. 2006. Marine mammals of North Carolina beaches. Wake County Audubon, Raleigh, NC, 12 December 2006.

Harms CA. 2006. Sea turtle medicine. One hour lecture in a marine animal medicine course coordinated by Dr. Forrest Townsend for 20 Auburn veterinary students. Gulf World Aquarium, Panama City, Florida, 4 October 2006.

Harms CA. Duke University Marine Laboratory, Beaufort, NC, Biology and Conservation of Sea Turtles Biol 125L/Environ 227L, 4 lecture hours on health and disease impacts on sea turtle conservation, 1 July 2006.

Harms CA. 2006. Sea turtle biology, medicine and surgery. Aquavet I, Woods Hole, MA. 8 June, 2 hr lecture, 2 hr laboratory.

ACZM Ultra-Short Board Review Course. Coordinator and instructor (2 hr). 8 hr course in association with the IAAAM 37th Annual Conference, 6 May 2006, Nassau, Bahamas.

Hohn AA, Rotstein DS, **Harms CA**, Southall BL. 2006. Report on marine mammal unusual mortality event UMESE0501Sp: Multispecies mass stranding of pilot whales (*Globicephala macrorhynchus*), minke whale (*Balaenoptera acutorostrata*) , and dwarf sperm whales (*Kogia sima*) in North Carolina on 15-16 January 2005. NOAA Technical Memorandum NMFS-SEFSC-537, 222 pp.

Abstract Reviewer, 16th Biennial Conference on the Biology of Marine Mammals, San Diego, CA, 2005.

Seafood Parasites. Seafood Quality and Safety: a Practical Workshop for Environmental Health Specialists. 3 – 5 November 2005, Pine Knoll Shores, NC. 45 minute presentation.

Session Co-chair, Pathology, Health and Rehabilitation session, 25th International Sea Turtle Symposium, Savannah, GA, 16 - 22 January, 2005.

Seafood Parasites. Seafood Quality and Safety: a Practical Workshop for Environmental Health Specialists. 3 – 5 November 2004, Pine Knoll Shores, NC. 45 minute presentation.

Marvet 3--Sea Turtles and More. 9 hours of lecture and 8 hours of laboratory in inaugural sea turtle theme Marvet. 8 - 13 August 2004, St. George's University, Grenada.

Harms CA. 2004. Duke University Marine Laboratory, Beaufort, NC, sea turtle biology course, 5 lecture hours on health and disease impacts on sea turtle conservation, and field trip to sea turtle rehabilitation center, 7- 8 July 2004.

Harms CA. 2004. Sea turtle biology, medicine and surgery. Aquavet I, Woods Hole, MA. 31 May, 2 hr lecture, 2 hr laboratory.

Harms CA. 2004. Virginia-Maryland Regional College of Veterinary Medicine exotic animal medicine course lectures on reptile, amphibian, sea turtle, and ferret medicine, 8 lecture hours, 29 February 2004

Scientific permit reviewer for Florida Fish and Wildlife Conservation Commission. 2004. One application reviewed.

Invited participant in National Marine Fisheries Service Office of Protected Resources sponsored Sea Turtle Longline Post-hooking Mortality Workshop, Bethesda, MD, 15-16 January 2004.
Ryder CE, Conant TA, Schroeder BA. 2006. Report of the workshop on marine turtle longline post-interaction mortality. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-F/OPR-20. 36 pp.

Scientific permit reviewer for Florida Fish and Wildlife Conservation Commission. 2003. Two applications

reviewed.

Harms C, Krum H, Stoskopf M. 2003. Ferret anesthesia and surgical procedures: epidural, ovariohysterectomy and analsaculectomy. NCSU instructional video.

Invited participant in multiagency North Atlantic Loggerhead Sea Turtle Mortality Workshop, St. Catherine's Island, GA, 19-20 November 2003.

Seafood Parasites. Seafood Quality and Safety: a Practical Workshop for Environmental Health Specialists. 15-17 October 2003, Pine Knoll Shores, NC. 45 minute presentation.

Harms CA. 2003. Sea turtle biology, medicine and surgery. Aquavet I, Woods Hole, MA. 6 June, 2 hr lecture, 2 hr laboratory.

Session Chair, Bacteriology, Biochemistry and Nutrition, International Association of Aquatic Animal Medicine, Waikoloa, Hawaii, 9 - 14 May 2003.

Seafood Parasites. Seafood Quality and Safety: a Practical Workshop for Environmental Health Specialists. 16-19 October 2002, Pine Knoll Shores, NC. 45 minute presentation.

Lewbart GA, **Harms CA**. 2002. Fish Surgery Wet Laboratories. International Conference on Exotics, 19 - 22 June, Key West, FL. Two 4 hour laboratories for practicing veterinarians.

Harms CA. 2002. Sea turtles and fish as indicators of environmental health. MARVET. Two-week course on marine animal medicine for veterinary students, run by Texas A&M and based at Mote Marine Laboratory, Sarasota, FL. 14 June, 4 hr lecture.

Field Reviewer, Office of Naval Research Postdoctoral Fellowship, administered by American Society for Engineering Education. 2002.

Session Chair, Molecular Techniques, International Association of Aquatic Animal Medicine, Albufiera, Portugal, 5 - 8 May 2002.

Review panel for Environmental Protection Agency Science to Achieve Results graduate fellowship. Arlington, VA, 19-20 February 2002.

Lewbart GA, **Harms CA**. 2001. Fish Surgery Wet Laboratories. Texas A&M, College Station, TX. Two 4 hour instructional laboratories for veterinary students. 17 November.

Seafood Parasites. Seafood Quality and Safety: a Practical Workshop for Environmental Health Specialists. 17-19 October 2001, Pine Knoll Shores, NC. 45 minute presentation.

Harms CA. 2001. Sea turtles and fish as indicators of environmental health. MARVET. Two-week course on marine animal medicine for veterinary students, run by Texas A&M and based at Mote Marine Laboratory, Sarasota, FL. 15 June, 4 hr lecture.

Review panel for Environmental Protection Agency Science to Achieve Results graduate fellowship. Washington, DC, 29-30 January 2001.

Reptile handling laboratory for veterinary technicians. North Carolina Veterinary Conference. Raleigh, NC, 4 November 2000. 3 hour rotating laboratory.

Seafood Parasites. Seafood Quality and Safety: a Practical Workshop for Environmental Health Specialists. 18 - 20 October 2000, Pine Knoll Shores, NC. 45 minute presentation.

Fish Medicine and Surgery Wet Lab, two-4 hour labs co-taught with GA Lewbart. American Association of Zoo Veterinarians and International Association of Aquatic Animal Medicine Joint Conference, New Orleans, LA, 17 September 2000.

Wet Lab Co-chair, American Association of Zoo Veterinarians and International Association of Aquatic Animal Medicine Joint Conference, New Orleans, LA, 17 - 21 September 2000. AAZV President's Award for Service.

USDA APHIS National Training Course on Diagnosis of Diseases of Aquaculture Species of Concern, Coordinated by Edward J. Noga, Raleigh, NC 10 - 14 May 1999. Conducted fish necropsy laboratory with Ruth Francis-Floyd.

Session Chair. International Association of Aquatic Animal Medicine, Boston, MA 2 - 5 May 1999.

Fish Medicine and Surgery Wet Lab, two-4 hour labs co-taught with GA Lewbart. American Association of Zoo Veterinarians and American Association of Wildlife Veterinarians Joint Conference, Omaha, NE 17 - 22 October 1998.

Session Chair, Aquatic Species. American Association of Zoo Veterinarians and American Association of Wildlife Veterinarians Joint Conference, Omaha, NE 17 - 22 October 1998.

Harms CA, Fleming WJ, Stoskopf MK. 1996. Heart rate biotelemetry in black ducks: response to simulated aircraft noise. In: Fleming WJ, Dubovsky JA, Collazo JA (eds), An Assessment of the Effects of Aircraft Activities on Waterfowl at Piney Island, North Carolina. A Final Report prepared for: US Marine Corps, Cherry Point Marine Air Station, Cherry Point, North Carolina. August 1996: F1-F19.

AWARDS

National Oceanic and Atmospheric Administration, Southeast United States Marine Mammal Stranding Network award in recognition of North Carolina State University, College of Veterinary Medicine, Center for Marine Sciences and Technology, for excellence in responding to stranded marine mammals during the 2013-2014 mid-Atlantic bottlenose dolphin Unusual Mortality Event.

American College of Zoological Medicine, President's Award for Service. October 2012.

Stange Award for Meritorious Service by the Iowa State University College of Veterinary Medicine, October 2011.

Outstanding Extension Service Award for the College of Veterinary Medicine, and induction into the Academy of Outstanding Faculty Engaged in Extension (AOFEE). April 2011.

National Oceanic and Atmospheric Administration, Southeast United States Marine Mammal Stranding Network award for dedication in responding to elevated numbers of large whale strandings, 2007 – 2009.

Outstanding Extension Service Award for the College of Veterinary Medicine. April 2003.

American College of Zoological Medicine, President's Award for Service. August 2003.

American Association of Zoo Veterinarians, President's Award for Service. September 2000.

Outstanding Graduate Student Award, Phi Kappa Phi honor society, North Carolina State University. March 1999.

Environmental Protection Agency, Science to Achieve Results (STAR) Graduate Fellowship, 1997-99.

North Carolina State College of Veterinary Medicine: Stipend for graduate work, awarded competitively for 3 years of study, 1995 - 1997

IAAAM Travel Award ($1000) and Graduate Student Award ($150) for paper: Harms CA, Kennedy-Stoskopf S, Fuller FJ, Horne WA, Tompkins WAF. Isolation of a transforming growth factor-beta (TGF-beta) clone from hybrid striped bass (*Morone saxatilis* X *M. chrysops*), at the annual meeting in Harderwijk, The Netherlands. May 1997.

IAAAM Intern/Resident award for paper: Harms CA, Bakal RS, Khoo LH, Spaulding KA, Lewbart GA. 1994. Microsurgical excision of an abdominal mass in a gourami. Proc Int Assoc Aquat Anim Med 25: 94.

GRANTS

Mooney TA, Piniak WD, Harms CA. Investigation of temporary threshold shifts in sea turtles to support Navy compliance permits. US Navy Living Marine Resources. Woods Hole Oceanographic Institution prime, sub to NC State for $438,534 over 4 years starting late 2025.

Dannemiller N, Harms C, Christiansen E, Lynch A. Efficacy of 18-micron filters for blood transfusions in sea turtles. DOCS Veterinary Practice Plan Resident Grant, $2338, 2023.

Harms CA, Nowacek D, Piniak, WD, Muirhead C. Sea turtle acoustic ecology: addressing priority data gaps in knowledge of sea turtle hearing sensitivity. Bureau of Ocean Energy Management, $456,938, 2020-2024.

Harms C. Temporary threshold shifts in hearing in aquatic turtles. Prime: US Navy-ONR; Direct: Woods Hole Oceanographic Institution. $12,677. 2020- 21.

Mones AB, Lewbart G, Harms C. Evaluation of blood lactate in response to handling stress and a comparison of two point-of-care analyzers in healthy loggerhead sea turtles (*Caretta caretta*). DOCS Veterinary Practice Plan Resident Grant, $3000, 2020.

Balko JA, Bailey KM, Harms CA. Physiologic parameters and anesthetic recovery time using desflurane or isoflurane with 21% oxygen of 100% oxygen in the green sea turtle (*Chelonia mydas*). Association of Reptilian and Amphibian Veterinarians Conservation and Research Grant, Kevin Wright Memorial Grant, $2870, 2019-2020.

Harms CA, Ruterbories L, Christiansen EF, Lynch AM, Broadhurst H, Serrano M, Barratclough A. Evaluating safety of multiple dose treatments with the pain relieving drug ketoprofen in loggerhead sea turtles using a newly developed clotting function test. North Carolina Aquarium Society Conservation Fund. $ 10,740, 2018-2019.

Thayer VG (PI), Harms CA (Co-I), McLellan WA, Pabst DA, Rittmaster K, Batsavage C. Marine mammal stranding response in central coastal and northern inland North Carolina and continued bottlenose dolphin post-UME surveillance. (National Marine Fisheries Service, Prescott Grant Program, awarded to NC Department of Environmental Quality) $99,950, 2017-2018.

Sharp S (PI), Sharp B (PI), Smith J, Johnson S, Bailey J, Harms C (Co-I), Nollens H, Moore M, Landry S, Gulland F. Pharmacological Desensitization of Select Large Whale Entanglement Cases to Improve Disentanglement Efficacy and Safety. (National Marine Fisheries Service, Prescott Grant Program, awarded to International Fund for Animal Welfare) $98,128, 2017-2018

Harms CA (PI), Christiansen EF, Papich MG, Broadhurst HJ. Ketoprofen pharmacokinetics in loggerhead sea turtles. North Carolina Aquarium Society Conservation Fund. $8,957, 9/1/2015 – 8/31/2016.

Phillips BE (PI), Harms CA (Co-PI), Haulena M, Lahner LL, Lewbart GA, Papich MG, Rosenberg JF. Pharmacokinetics of enrofloxacin and its metabolite ciprofloxacin in the green sea urchin (*Strongylocentrotus droebachiensis*)

following intracoelomic and bath administration. American Association of Zoo Veterinarians, Wild Animal Health Fund, $3700, 1/1/2015 thru 9/30/2015.

Stoskopf MK (PI), Bembenek-Bailey SA, Harms CA, Niemuth JN (Co-PIs). Crude oil and dispersant impacts on hatchling loggerhead sea turtles (*Caretta caretta*). UC-Davis Oiled Wildlife Care Network, $10,720, 10/1/2014 thru 9/30/2015.

Aquarium Health Management: PI Stoskopf MK; CoPI's Harms CA, Kennedy-Stoskopf S, Lewbart GA. NC DENR $130,010, 10/01/2014 thru 9/30/2015.

Aquarium Health Management: PI Stoskopf MK; CoPI's Harms CA, Kennedy-Stoskopf S, Lewbart GA. NC DENR $212,233, 10/01/2013 thru 9/30/2014.

Aquarium Health Management: PI Stoskopf MK; CoPI's Harms CA, Kennedy-Stoskopf S, Lewbart GA. NC DENR $197,961, 10/01/2012 thru 10/31/2013.

Harms CA. Collaborative development of stranded cetacean euthanasia recommendations, 2012 (Direct Sponsor: Virginia Aquarium & Marine Science Center, Primary Sponsor: National Oceanic & Atmospheric Administration) $7500.

Veterinary Medical Services Rendered to the North Carolina Museum of Natural Sciences: PI Lewbart; CoI's Christian, Harms. NC DENR $65,000, 7/01/2011 thru 6/30/2014.

Harms CA, Chinnadurai SK. Sex differences in meloxicam pharmacokinetics in ferrets after single subcutaneous and oral administration, 2011-2012 (Association of Exotic Mammal Veterinarians - AEMV) $5000.

Harms CA. Leatherback field anesthesia to assess hearing sensitivity and potential effects of anthropogenic noise, 2011 (WIDECAST – Wider Caribbean Sea Turtle Conservation Network) $4872.

Aquarium Health Management: PI Stoskopf; CoPI's Harms, Kennedy-Stoskopf, Lewbart. NC DENR $356,476, 10/01/2009 thru 9/30/2012.

Harms CA, Lewbart GA, Stoskopf MK. 2009 – 2010. Maintaining marine mammal stranding response capacity in central North Carolina and transitioning to a new stranding response program (National Marine Fisheries Service, Prescott Grant Program) $99,661.

Harms CA, Papich MG, Cranston EA, Flanagan JP. 2009. Pharmacokinetics of clindamycin in loggerhead sea turtles (Caretta caretta) after a single IV, IM or oral dose (Association of Amphibian and Reptilian Veterinarians Conservation and Research Committee) $3000.

Harms CA, Watts BH. 2009. Predation on important commercial and recreational fishes along the coast of North Carolina by the bottlenose dolphin (Tursiops truncatus) (North Carolina Sea Grant) $4900.

Lewbart GA, Christian LS, Harms CA. Veterinary medical services rendered to the Museum of Natural Sciences. 2008 - 2011 (North Carolina Department of Environment and Natural Resources) $80,000.

Harms CA. 2008. Characterization of Amebocytes Found in Clinically Normal and Diseased Gorgonian Sea Fans (Morris Animal Foundation sponsor for Veterinary Student Scholar Katharine Holder) $2000.

Harms CA. Dolphin necropsy contract. 2006-2007 (NOAA National Marine Fisheries Service) $24,898.

Harms CA, Lewbart GA, Stoskopf MK. 2006-2007. Improving live marine mammal stranding response in North Carolina through rapid diagnostic capability and short term holding capacity. (National Marine Fisheries Service, Prescott Grant Program) $56,930.

Lewbart GA, Christian LS, Harms CA. Veterinary medical services rendered to the Museum of Natural Sciences. 2006-2007 (North Carolina Department of Environment and Natural Resources) $20,000.

Harms CA. Field anesthesia of leatherback sea turtles for the purpose of conducting electroretinograms. 2006 (WIDECAST—Wider Caribbean Sea Turtle Conservation Network) $8456.

Stoskopf MK, Harms C, Lewbart G, Kennedy-Stoskopf S. 2005-2007. Aquarium health management. North Carolina Aquariums. (North Carolina Department of Environment and Natural Resources) $156,095.

Lewbart GA, Christian LS, Harms CA. Veterinary medical services rendered to the Museum of Natural Sciences. 2005-2006 (North Carolina Department of Environment and Natural Resources) $20,000.

Godfrey MH, Harms CA, Braun-McNeill J, Avens L, Hohn A. 2005. Sea turtle health assessment project II. National Fish and Wildlife Foundation. $64,663.

Harms CA. 2005. Veterinary care during dolphin captures. (National Marine Fisheries Service) $6262.

Harms CA, Tuttle AD, Law M, Harvey S. Evaluation of the tissue reactions in the skin and body wall of the African clawed water frog (*Xenopus laevis*) in response to commonly used suture materials. 2005 (Department of Clinical Sciences Veterinary Practice Plan Grant) $1107.

Pabst DA, McClellan WA, Rotstein D, Barco S, Harms C, Lewbart G, Law M, Romano T, Hohenwater C, Swingle M, Dunn L, Saliki J, Enhanced tissue collection and health monitoring of stranded marine mammals in North Carolina and Virginia. 2005 (NOAA National Marine Fisheries Service, Prescott Grant Program) $98,587.

Harms CA, Lewbart GA, Stoskopf MK. 2004-2005. Improving live marine mammal stranding response in North Carolina through rapid diagnostic capability and short term holding capacity. National Marine Fisheries Service, Prescott Grant Program $83,195.

Stoskopf MK, Harms C, Lewbart G, Kennedy-Stoskopf S. 2004-2005. Aquarium health management. North Carolina Aquariums. $67,189.

Lewbart GA, Christian LS, Harms CA. 2004-2005. Veterinary medical services rendered to the Museum of Natural Sciences. North Carolina Department of Environment and Natural Resources. $20,000.

Godfrey MH, Harms CA, Braun-McNeill J, Avens L, Hohn AA, Epperly SP. 2004. Sea turtle health assessment project. National Fish and Wildlife Foundation. $20,000.

Levine J, Law M, Guy J, Harms C, Stoskopf M, Lewbart G. CVM Equipment Grant for real time PCR cycler. 2004. $27,870.

Levine J, Law M, Guy J, Harms C, Stoskopf M, Lewbart G. CVM Equipment Grant for micro-plate reader. 2004. $5634.

Levine JF, Corsin F, Shivappa R, Guy J, Law M, Harms C, Lewbart G, Bakal R, Whey K. Prevention and Control of Spring Viremia of Carp by Accurate Diagnosis and Biocontrol. USDA/ NRI/ARS 9/2003 - 8/2005. $115,000.

Pabst DA, McClellan WA, Rotstein D, Harms C, Lewbart G, Law M, Romano T, Hohenwater C. 2003-2004. Enhanced tissue collection and health monitoring of stranded marine mammals in North Carolina. National Marine Fisheries Service, Prescott Grant Program $94,046.

Harcke J, Godfrey M, Harms C. 2003-2004. Satellite telemetry assessment of rehabilitated hypothermic-stunned

sea turtles. Institute of Museum and Library Services, Conservation Project Support Grant. $59,775. [Collaboration of NC Aquarium at Roanoke Island (Harcke), NC Wildlife Resources Commission (Godfrey), and NCSU CVM (Harms)]

Pabst DA, McClellan WA, Harms C, Lewbart G, Law M, Romano T. 2002-2003. Enhanced tissue collection and health monitoring of stranded marine mammals in North Carolina. National Marine Fisheries Service, Prescott Grant Program $100,000.

Rotstein DS, Harms CA. 2002-2003. Histopathological Review of Bottlenose Dolphin (Tursiops truncatus) Tissues to Compare Health of Animals Stranded Due to Net Entanglement Versus Other Causes. National Marine Fisheries Service. $2500.

Harms CA, Hohn AA, Papich MG, Stamper MA, Fontaine CT, Plummer DD. 2002. Pharmacokinetics of oxytetracycline in loggerhead sea turtles (Caretta caretta) after a single intravenous and intramuscular injection. National Marine Fisheries Service. $16, 410.

Harms CA, Lewbart GA, Swanson CR. 2001. Post-surgical analgesia in fish. ACLAM Foundation. $6760.

Law JM, Levine JF, Dykstra M, Harms C. 2001. Relationship between harmful algal blooms and epizootic ulcerative lesions in coastal North Carolina fish. CDC. $107,525.

Degernes L, Flammer K, Lewbart G, Harms C, Edling T, Trogdon M, Ryan J, Freemal K. 2000. Development of teaching tools for the avian and reptile medicine service. DOCS Teaching Innovations and Development. $500.

Harms CA, Stoskopf MK. 2000. Equipment Grant from USDA Formula Funds for new CMAST laboratory. $22,500.

Harms CA, Kennedy-Stoskopf S. 2000. An assay to measure TGF-beta in Fish. USDI, USGS, National Fish Health Research Laboratory. $12,000.

Stoskopf M, Harms C, Linnehan R, Horne W, Tucker D. 1999. Editing and production of a teaching video on anesthesia, ovariohysterectomy and descenting of the domestic ferret. DOCS Teaching Innovations and Development. $1550.

Kennedy-Stoskopf S, Harms CA. 1998-99. An assay to measure TGF-beta in Fish. USDI, USGS, National Fish Health Research Laboratory. $12,000/year for 2 years.

Environmental Protection Agency, Science to Achieve Results (STAR) Graduate Fellowship 1997-99. $25,022/year ($17,000 salary support, $5000 expense account, $3022 tuition and fees). Investigations of Transforming Growth Factor-beta in Teleost Fish.

CVM State Research Support Grant, 1997-99. Measuring Transforming Growth Factor-beta (TGF-beta) Expression in Hybrid Striped Bass (*Morone saxatilis* x *M. chrysops*) and Application of Methodology to other Fish Species. Tompkins WAF, Kennedy-Stoskopf S, Harms CA. $21,220.

Harms CA, Hinshaw JM. Effect of dietary sodium chloride on plasma electrolytes, acid-base status and chloride cells in rainbow trout in normal pH water and in response to acute low pH stress. North Carolina State University, Companion Animal and Special Species Department, Practice Plan Research Grant, November, 1993, $1200.

Hoskinson JJ, Harms CA, Carpenter JW. Thyroid function evaluation in the cockatiel (*Nymphicus hollandicus*) and development of a model for hypothyroidism in pet psittacine birds. Kansas State University, Department of Clinical Sciences, Faculty Awards Committee Grant, May, 1992, $1000.

RESIDENTS AND GRADUATE STUDENTS SUPERVISED

(Director of NC State/NC Zoo/NC Aquariums Zoological Medicine Residency Program 2019-present)

Michele Greenfield-Feig, Zoological Medicine Resident, 2028
Amanda Day, Zoological Medicine Resident, 2028
Megan Roeder, Zoological Medicine Resident, 2027
Laura Martinelli, Zoological Medicine Resident, 2026
Haley Stratton, Zoological Medicine Resident, 2026
Lauren Mumm, Zoological Medicine Resident, 2025
Ashley Souza, Zoological Medicine Resident, 2025
Nicholas Dannemiller, Zoological Medicine Resident, 2024
Megan Cabot, Zoological Medicine Resident, 2023
Caitlin Hepps Keeney, Zoological Medicine Resident, 2023
Alissa Mones, Zoological Medicine Resident, 2022
Kyra Knutson, Zoological Medicine Resident, 2022
Emma Houck, Zoological Medicine Resident, 2021
Gregory Scott, Zoological Medicine Resident, 2020
Meghan Louis, Zoological Medicine Resident, 2020
Kate Archibald, Zoological Medicine Resident, 2019
Lori Westmoreland, Zoological Medicine Resident, 2018
Sarah Cannizzo, Zoological Medicine Resident, 2017
Brianne Phillips, Zoological Medicine Resident, 2016
Jenessa Gjeltema, Zoological Medicine Resident, 2015
Emily Christiansen, Zoological Medicine Resident, 2014
Jb Minter, Zoological Medicine Resident, 2013
Elsburgh Clarke, III, Zoological Medicine Resident, 2012
Betsy Stringer, Zoological Medicine Resident, 2011
Eric Anderson, Zoological Medicine Resident, 2011
Sathya Chinnadurai, Zoological Medicine Resident, 2009
Anesthesiology Resident, 2011
Karen Wolf, Zoological Medicine Resident, 2008
Allison Tuttle, Zoological Medicine Resident, 2007
Robert MacLean, Zoological Medicine Resident, 2006
Terra Kelly, Zoological Medicine Resident, 2005
Pamela Govett, Zoological Medicine Resident, 2004
Beth Chittick Nolan, Zoological Medicine Resident, 2001

Tiffany Zorotrian, PhD candidate, University of Florida, committee member
Lyndsay Curl, PhD candidate, committee member
Hannah Reynolds, PhD candidate, committee member
Alex Bogdanoff, PhD 2019, committee member
Jennifer Niemuth, PhD 2019, committee member
Tiffany Keenan, MSc 2015, UNC-W, committee member
PhD 2021, UNC-W, committee member
Christina Shenton, MSc 2011, committee member
James Morris, PhD 2009, committee member
Andrea Johnson, PhD 2004, committee member
Kyoungju Choi, PhD 2004, committee member

PROFESSIONAL ORGANIZATIONS

American College of Zoological Medicine, Diplomate (1995)

Examination Committee 1996 - 2004, Chair 2002 – 2003
Secretary 2006-2007
Vice-President 2008-2009
President 2010 – 2011
Past President and Executive Committee 2012 – 2013
Nominations Committee 2012 – 2016
Examination co-host 2011 – 2013
Examination Standard Setting Committee 2018 - present
European College of Zoological Medicine (Zoo Health Management), Diplomate (2017, recertified 2022)
American Veterinary Medical Association
Wildlife Disease Association
International Association for Aquatic Animal Medicine
Board member, newsletter editor 2004 – 2008
President-Elect and Program Chair, 2008 – 2009
President, 2009 – 2010
Past-president and board member, 2010 – 2011
Nominations & Awards Committee 2011 – 2015
American Association of Zoo Veterinarians
Nominations Committee 2011
AAZV Research Grant Committee 2012 - 2016
Association of Reptilian and Amphibian Veterinarians

Licenses: North Carolina and Iowa veterinary licenses; DEA license; USDA Accreditation Category II.

Certifications:
OSHA 24 Hour HAZWOPER and 8 Hour Refreshers, current through July 2026
ATV Safety Institute E-course 23Oct2021 and Hands-on ATV RiderCourse 19Nov2021
American Canoe Association Level 4 Swiftwater Rescue 25Apr2021, 21Apr2024
Wilderness First Responder current through Nov2026

OTHER EXPERIENCE

Federal and State Bird Banding Permit, subpermit 2010-2021, master permit 2021-present.

Working Group on Marine Mammal Unusual Mortality Events, NOAA, NMFS, 2018-present, chair-elect 2025, chair 2026 – current.

Karen Beasley Sea Turtle Rescue and Rehabilitation Center, Board of Directors. 2002-present.

North Carolina Aquarium at Pine Knoll Shores, IACUC and Research Committee. 2011 – 2018.

North Carolina Zoo IACUC Committee 2021-2023, subsequently ad hoc.

North Carolina Marine Fisheries Commission Sea Turtle Advisory Committee. 2010 – 2016.

North Carolina Aquarium at Pine Knoll Shores, Community Advisory Committee. 2000 - present.

Carteret Community College Aquaculture Advisory Board. 2001 – 2008, 2013 - 2021.

Carnivore Preservation Trust, Animal Care and Use Committee and Research Advisory Committee. 2000 - 2002.

Operation Catnip, Board of Directors, 12/97-6/00, Vice President 1999-2000, volunteer surgeon 1996-2008. Raleigh-area nonprofit feral cat spay/neuter/vaccinate program that processes over 1000 cats per year.